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10/606,180

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Kazuhito Kojima

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EXAMINER

HARPER, LEON JONATHAN

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/606,180	Applicant(s) KOJIMA ET AL.	
	Examiner LEON HARPER	Art Unit 2166	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/21/2009</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/27/2009 has been entered. Pursuant to said request claim 16, 20, 23, and 25 have been amended. No new claims have been added or cancelled. Accordingly, claims 16-27 are pending in this office action.

Response to Arguments

Applicant's claim amendments and arguments, filed 4/22/09, with respect to the rejection(s) of claim(s) 16-27 under 35 U.S.C. 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of the newly cited combination of references that is disclosed below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 16, 17, 19-27 rejected under 35 U.S.C. 103(a) as being unpatentable over US 5903893 (hereinafter Kleewein) in view of US 5615367 (hereinafter Bennett).

As for claim 1 Kleewein discloses:

One or more databases present on a network (See column 2 lines 55-60 and column 3 lines 35-45); One or more first servers that search that databases for real data in the plurality of tables (See column 3 lines 39-41);

table extraction means for extracting columns from one table of the plurality of tables that store data to be retrieved from the plurality of tables (See figure 1 "if in command causes extraction then the processor of the computer is the extraction means also see column 4 lines 36-38 "In" predicate extracting for merge/join); column exclusion means for excluding columns from other tables of the plurality of tables which store the

Art Unit: 2166

same data to be retrieved by said table extraction from columns to be extracted in subsequent processing (See column 4 lines 36-39 In procedure excludes all data that is not in the query).

While Kleewein does not disclose: a second server containing metadata that pertains to the real data in the one or more databases table joining means for creating a virtual table by joining the columns that store data extracted by said table extraction without being excluded by said column exclusion means when the processing of said table extraction means and the processing of said column exclusion means have been repeated till all the columns including data to be retrieved are analyzed; wherein even when the one or more databases and first servers that manage these databases are present on the network, all metadata that match a retrieval request can be extracted by a search of tile second server.

Bennett however does disclose a second server containing metadata that pertains to the real data in the one or more databases (See column 7 lines 1-7 note: metadata is just data about data) table joining means for creating a virtual table by joining the columns that store data extracted by said table extraction without being excluded by said column exclusion means (See column 9 lines 10-20 discloses the column information and column 14 lines 15-20 noting that foreign keys or columns in common are used to link the tables) when the processing of said table extraction means and the processing of said column exclusion means have been repeated till all the columns including data to be retrieved are analyzed (See column 14 lines 39-47);

Art Unit: 2166

wherein even when the one or more databases and first servers that manage these databases are present on the network, all metadata that match a retrieval request can be extracted by a search of the second server (See column 19 lines 50-57 when the system has a one to many relationship any of the many can go down). It would have been obvious to an artisan of ordinary skill in the pertinent art at the time the invention was made to have incorporated the teaching of Bennett into the system of Kleewein. The modification would have been obvious because the two references are concerned with the solution to the problem of data processing, therefore there is an implicit motivation to combine these references. In other words, the ordinary skilled artisan, during his/her quest for a solution to the cited problem, would look to the cited references at the time the invention was made. Consequently, the ordinary skilled artisan would have been motivated to combine the cited references since Bennett's teaching would enable user's of the Kleewein system to have a simple intuitive method of combining tables (See Bennett column 3 lines 41-47).

As for claim 17, the rejection of claim 16 is incorporated, and further Kleewein discloses: wherein said table extraction means extracts one table including a largest number of columns which store data to be retrieved from the plurality of tables (See column 5 lines 40-45).

As for claim 19 the rejection of claim 16 is incorporated and further Bennett discloses retrieval means for retrieving objects in accordance with a retrieval key (See

Art Unit: 2166

column 10 lines 1-10), and wherein data is retrieved from the virtual table created by joining the tables which are extracted in turn and joined by said table extraction means (See column 10 lines 15-20).

As for claim 20 Kleewein discloses: repeating processing that extracts a table and excludes columns that include identical data from a previous search(See column 4 lines 36-39 In procedure excludes all data that is not in the query) and joining one or more tables of the one or more databases extracted in turn (column 4 lines 36-38 "In" predicate extracting for merge/join). Kleewein does not disclose: creating a virtual table by joining columns that store data to be retrieved of a plurality of tables using a relational database in such a manner that one table including columns that store data to be retrieved is extracted from the plurality of tables in one or more databases, columns on other tables which store the same data contents as data contents of columns on the extracted table are excluded, and another table is extracted from the remaining tables, wherein even when the one or more databases and first servers that manage these databases are present on the network, all metadata that match a retrieval request can be extracted by a search of a second server.

Bennett however does disclose: creating a virtual table by joining columns that store data to be retrieved of a plurality of tables using a relational database in such a manner that one table including columns that store data to be retrieved is extracted from the plurality of tables in one or more databases (See column 9 lines 10-20 discloses the column information and column 14 lines 15-20 noting that foreign keys or columns in

Art Unit: 2166

common are used to link the tables), columns on other tables which store the same data contents as data contents of columns on the extracted table are excluded, and another table is extracted from the remaining tables (See column 10 lines 59-67 noting secondary indexes); wherein even when the one or more databases and first servers that manage these databases are present on the network, all metadata that match a retrieval request can be extracted by a search of a second server (See column 19 lines 50-57 when the system has a one to many relationship any of the many can go down). It would have been obvious to an artisan of ordinary skill in the pertinent art at the time the invention was made to have incorporated the teaching of Bennett into the system of Kleewein. The modification would have been obvious because the two references are concerned with the solution to problem of data processing, therefore there is an implicit motivation to combine these references. In other words, the ordinary skilled artisan, during his/her quest for a solution to the cited problem, would look to the cited references at the time the invention was made. Consequently, the ordinary skilled artisan would have been motivated to combine the cited references since Bennett's teaching would enable user's of the Kleewein system to have a simple intuitive method of combining tables (See Bennett column 3 lines 41-47).

As for claim 21, the rejection of claim 20 is incorporated, and further Kleewein discloses: wherein upon exceeding one table from the plurality of tables, one table including a largest number of columns that store data to be retrieved is extracted (See column 5 lines 40-45).

As for claim 22, the rejection of claim 20 is incorporated, and further Kleewein discloses: wherein data is retrieved from the virtual table created by joining the plurality of tables (See column 4 lines 55- 59).

As for claim 23 Kleewein discloses: extracting one table including a largest number of columns that store data to be retrieved from a plurality of tables in one of" more databases present on a network upon search by joining a plurality of tables by a relational database(column 4 lines 36-38 "In" predicate extracting for merge/join). Kleewein does not disclose: excluding columns on other tables which store the same data contents as data contents of the columns on the extracted table from columns to be extracted in subsequent processing; and creating a virtual table by joining the tables extracted in turn without being excluded by said excluding columns said two processing of extracting and excluding have been repeated until all the columns including data to be retrieved are analyzed. wherein even when the one or more databases and first servers that manage these databases are present on the network, all metadata that match a retrieval request can be extracted by a search of a second server. Bennett however does disclose: excluding columns on other tables which store the same data contents as data contents of the columns on the extracted table from columns to be extracted in subsequent processing (See column 9 lines 10-20 discloses the column information and column 14 lines 15-20 noting that foreign keys or columns in common are used to link the tables); and creating a virtual table by joining the tables extracted in turn without being excluded by said excluding columns said two processing of extracting

Art Unit: 2166

and excluding have been repeated until all the columns including data to be retrieved are analyzed (See column 14 lines 39-47). wherein even when the one or more databases and first servers that manage these databases are present on the network, all metadata that match a retrieval request can be extracted by a search of a second server (See column 19 lines 50-57 when the system has a one to many relationship any of the many can go down). It would have been obvious to an artisan of ordinary skill in the pertinent art at the time the invention was made to have incorporated the teaching of Bennett into the system of Kleewein. The modification would have been obvious because the two references are concerned with the solution to problem of data processing, therefore there is an implicit motivation to combine these references. In other words, the ordinary skilled artisan, during his/her quest for a solution to the cited problem, would look to the cited references at the time the invention was made. Consequently, the ordinary skilled artisan would have been motivated to combine the cited references since Bennett's teaching would enable user's of the Kleewein system to have a simple intuitive method of combining tables (See Bennett column 3 lines 41-47).

As for claim 24 the rejection of claim 23 is incorporated and Bennett further discloses: wherein said program makes the computer further implement the function of retrieving objects in accordance with a retrieval key (See column 10 lines 1-10), from the virtual table created from the tables extracted and joined by said table extraction means (See column 10 lines 15-20).

As for claim 25 Kleewein discloses: means for extracting columnar data from the one or more databases (See figure 1 “if in command causes extraction then the processor of the computer is the extraction means also see column 4 lines 36-38 “In” predicate extracting for merge/join); Kleewein does not disclose: means for creating a virtual table by analyzing and joining specified columnar data from one or more databases; and means for excluding any duplicative columnar data in the plural distributed databases from the virtual table wherein even when the one or more databases and first servers that manage these databases are present, all metadata that match a retrieval request can be extracted by a search of a second server. Bennett however does disclose: means for creating a virtual table by analyzing and joining specified columnar data from one or more databases (See column 9 lines 10-20 discloses the column information and column 14 lines 15-20 noting that foreign keys or columns in common are used to link the tables); and means for excluding any duplicative columnar data in the plural distributed databases from the virtual table wherein even when the one or more databases and first servers that manage these databases are present (See column 14 lines 29-37), all metadata that match a retrieval request can be extracted by a search of a second server (See column 19 lines 50-57 when the system has a one to many relationship any of the many can go down). It would have been obvious to an artisan of ordinary skill in the pertinent art at the time the invention was made to have incorporated the teaching of Bennett into the system of Kleewein. The modification would have been obvious because the two references are concerned with the solution to problem of data processing, therefore there is an implicit

Art Unit: 2166

motivation to combine these references. In other words, the ordinary skilled artisan, during his/her quest for a solution to the cited problem, would look to the cited references at the time the invention was made. Consequently, the ordinary skilled artisan would have been motivated to combine the cited references since Bennett's teaching would enable user's of the Kleewein system to have a simple intuitive method of combining tables (See Bennett column 3 lines 41-47).

As for claim 26 the rejection of claim 25 is incorporated and further Bennett discloses: wherein the means for extracting functions until all columnar data in the plural distributed databases has been analyzed (See column 14 lines 39-47);.

As for claim 27 Kleewein discloses: extracting a first table including columns that store data to be retrieved from the plurality of tables (See column 4 lines 25-27, lines 30-45, lines 55-57), extracting a second table including columns that also store data to be retrieved from the plurality of tables (See column 4 lines 25-27, lines 30-45, lines 55-57)

Kleewein does not disclose: creating a virtual table by joining columns of the first second and third extracted tables excluding, from the created virtual table columns of the second extracted table which duplicates data contents of the first extracted table excluding from the created virtual table, columns of the third extracted table which duplicates data contents of either the first or second extracted table ; searching the virtual table for desired data; wherein even when the one or more databases and first

Art Unit: 2166

servers that manage these databases are present on the network, all metadata that match a retrieval request can be extracted by a search of a second server

Bennett however does explicitly disclose creating a virtual table by joining columns of the first second and third extracted tables (See column 9 lines 10-20 discloses the column information and column 14 lines 15-20 noting that foreign keys or columns in common are used to link the tables), excluding, from the created virtual table columns of the second extracted table which duplicates data contents of the first extracted table (See column 10 lines 65-68) excluding from the created virtual table, columns of the third extracted table which duplicates data contents of either the first or second extracted table (See column 11 lines 5-15); searching the virtual table for desired data (See column 10 lines 38-41). Wherein even when the one or more databases and first servers that manage these databases are present on the network, all metadata that match a retrieval request can be extracted by a search of a second server (See column 19 lines 50-57 when the system has a one to many relationship any of the many can go down). It would have been obvious to an artisan of ordinary skill in the pertinent art at the time the invention was made to have incorporated the teaching of Bennett into the system of Kleewein. The modification would have been obvious because the two references are concerned with the solution to problem of data processing, therefore there is an implicit motivation to combine these references. In other words, the ordinary skilled artisan, during his/her quest for a solution to the cited problem, would look to the cited references at the time the invention was made. Consequently, the ordinary skilled artisan would have been motivated to combine the

Art Unit: 2166

cited references since Bennett's teaching would enable user's of the Kleewein system to have a simple intuitive method of combing tables (See Bennett column 3 lines 41-47).

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kleewein and Bennett as applied to claim 16 above, and further in view of US 5937 409 (hereinafter Wetherbee).

As for claim 18, the rejection of claim 16 is incorporated, and further Kleewein discloses: joining of the plurality of tables (See column 6 lines 45-48 “merge join feature”) and extracting tables (See column 4 lines 35-40). Kleewein differs from the claimed invention in that metadata management means for collecting and managing metadata which pertain to joining of the plurality of tables, and wherein said table extraction means extracts the table on the basis of the metadata stored in said metadata management means are not explicitly indicated. Wetherbee however, discloses a metadata management means for collecting and managing metadata (See column 4 lines 60-64 “relational mapper = metadata management means), and metadata stored in said metadata management means (See column 5 lines 2-5). It would have been obvious to an artisan of ordinary skill in the pertinent at the time the invention was made to have incorporated the teaching of Wetherbee into the system of Kleewein and Bennett. The modification would have been obvious because the two references are concerned with the solution to problem of data processing, therefore there is an implicit motivation to combine these references. In other words, the ordinary skilled artisan, during his/her quest for a solution to the cited problem, would look to the cited references at the time the invention was made. Consequently, the ordinary skilled artisan would have been motivated to combine the cited references since Wetherbee’s

Art Unit: 2166

teaching would enable user's of the Kleewein and Bennett system to more efficiently and effectively manage metadata (See Wetherbee column 2 lines 52-57).

Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEON HARPER whose telephone number is (571)272-0759. The examiner can normally be reached on Flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on (571) 272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/LEON HARPER/
Examiner, Art Unit 2166